

# © EV 101 Workshop

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Nissan Confidential



# © Nissan LEAF – Product Highlights

- Zero emission
- Affordable
- Stimulating acceleration
- Quietness
- 100-mile range sufficient for daily use
- Advanced intelligent transportation (IT) system



Size	5-door compact hatchback
Capacity	5 Adults
Range	100 miles (US LA4)
Top Speed	90 mph
Battery	Laminated Li-ion
Capacity/Power	24 kWh/over 90kW
Motor	High-response synchronous AC Motor (80kW/280Nm)
IT System	Integrated communication system
MSRP	\$32,780 (\$25,280 w/ tax credit) or \$349/month lease

# Getting to Mass Market requires Scale

## Battery / Nissan EV Manufacturing Capacity



### France, Flin Battery

- Battery 100,000 units/year
- Production from 2012

### UK, Sunderland Battery & EV

- Battery 60,000 units/year
- Production from 2012
- EV 50,000 units/year
- Production from 2013



Ground-breaking  
April 27th

### Japan, Oppama EV

- EV 50,000 units/year
- Production from 2010



### Portugal, Aveiro Battery

- Battery 50,000 units/year
- Production from 2012

### Japan, Zama Battery

- Battery 90,000 units/year (~2011)
- Production from 2010

### USA, Smyrna Battery & EV

- Battery 200,000 units/year
- EV 150,000 units/year
- Production from 2012





# Nissan LEAF Charge Ports



Level  
1 & 2

DC Fast  
Charge



## ◎ Charging time and mileage

- **DC Quick charging: 80% in about 30 min**
- **Normal charging**

Voltage	Ampere	Charging time [hr] Empty lighted to full charged	Charging time and mileage		
			2hr	4hr	6hr
AC240V	16A	About 7-8 hr	+ 25mile	+ 50mile	+ 75mile
AC120V	12A	About 20-21 hr	+10mile	+20mile	+30mile

# Nissan / AeroVironment Home Charging



- Goal
  - Simple, one-stop shop for the consumer have charging equipment installed at home
- AeroVironment selected as Nissan's preferred vendor for residential charging equipment
  - Includes all US markets
- AeroVironment provides
  - The charging dock
  - Manages permitting + installations
  - Trains contractor network





# Nissan LEAF Launch Markets



## December

California, Oregon, Washington,  
Arizona, Tennessee

## January

Texas, Hawaii



## **1. Incentives for consumers**

- Financial (tax credit, free permitting, free charging, subsidized charger installation)
- Non-financial (HOV lane access, preferential parking, etc.)

## **2. Streamlined EVSE permit process**

- Fast, easy permit application process (online permitting)
- Expedient installation approvals or installer self certification

## **3. Charging Infrastructure**

- Home
- Workplace
- Public

## **4. Education and Public Outreach**

- Educate the public on environmental, social, and financial benefits of electric drive vehicles





## 2. Streamline permitting

- **Streamlined EVSE permit process**
  - Fast, easy permit application process (online permitting)
  - Expedite installation approvals or installer self certification
  - Can we do better than a standard electrical permit?
  - Think long-term market expansion
- Examples
  - City of Los Angeles
    - Online permit
  - City of Houston
    - 24 hour commitment for inspection
  - State of Oregon
    - Minor Label program (self-certification with spot inspections)



## 3. Charging Infrastructure

### Expand Charging Station Network

- Residential, Workplace, Public

### Examples

- **Nissan has installed 110 public stations in So Cal**
  - More to come nationwide
- **City of Santa Monica**
  - Upgrading legacy stations to J1772
- **LADWP**
  - subsidizing residential EVSE purchase
- **NRG Houston**
  - Investment in residential, level 2 and DC Fast Charge infrastructure for a subscription fee



the new car

Zero Emission